

## Experiment: Acids, Bases and Indicators

### Pre-lab exercise: KEY

1. According to Arrhenius Theory, what is an acid and what is a base? Give an example for each.

**AN ACID IS A SUBSTANCE THAT CAN GENERATE A HYDRGOEN ION (HYDRONIUM ION) IN AN AQUEOUS SOLUTION (IN WATER).**

**EXAMPLES: HCl, HF**

**A BASE IS A SUBSTANCE THAT CAN RELEASE HYDROXIDE IONS IN AN AQUEOUS SOLUTION (IN WATER).**

**EXAMPLES: NaOH, Ca(OH)<sub>2</sub>**

2. What is an indicator? Which indicator will you use in this experiment?

**AN INDICATOR IS A CHEMICAL THAT CHANGES COLOR DEPENDING ON THE pH OF ITS SOLUTION. IT CAN BE USED TO MONITOR THE pH OF VARIOUS SUBSTANCES.**

**FOR THIS LAB, THE INDICATOR SOLUTION WILL BE GENERATED BY HEATING RED CABBAGE LEAVES IN WATER.**

3. How will you dispose of wastes for this week's lab?

**ALL LIQUID WASTES CAN GO DOWN THE DRAIN.**

4. Classify the solutions with the following pH values as neutral, basic or acidic:

a. pH = 2.4      **ACIDIC**

b. pH = 7.0      **NEUTRAL**

c. pH = 10.6      **BASIC**